

## 1. INTRODUCTION

### 1.1 Study Background

1.1.1 The Parking Demand Study (PDS-1), completed in 1995, set the direction for future parking strategies in Hong Kong. The PDS-1 reviewed and updated the parking standards in the Hong Kong Planning Standards & Guidelines (HKPSG) and recommended remedial measures and new initiatives to satisfy the Territory's existing and future parking requirements. Since then, circumstances have changed, leading to new areas of concern and the need to update some of the assumptions and predictions made in the PDS-1.

1.1.2 Against this background, Ove Arup & Partners Hong Kong Limited (Arup) was commissioned by Transport Department (TD) in May 2000 to undertake the Second Parking Demand Study (PDS-2).



*Illegal Parking*

### 1.2 Study Objectives

1.2.1 PDS-2 is a strategic transport study that covers the whole of the Hong Kong Special Administrative Region (HKSAR). The Study aims to identify existing and future parking and loading/unloading problems and to recommend remedial measures to address these problems. The main objectives of the Study are :

- To validate and enrich the existing inventory of parking and loading/unloading facilities for the whole territory and convert it into a spatial format;
- To review and enhance the Parking Demand Model (PDM);

- To assess the present and future parking demand and supply situations;
- To review the HKPSG parking and loading/unloading provision in light of changes since PDS-1;
- To identify the scale of current parking related problems; and
- To review the PDS-1 recommendations, recommend new remedial measures and formulate new initiatives.

1.2.2 The Study covers the base year 2000 and design years 2006 and 2011.

1.2.3 A requirement of the Study is that the findings and recommendations should be compatible with Government's transport strategy as set out in "Hong Kong Moving Ahead : A Transport Strategy for the Future" published in 1999, which focuses on:

- Better integration of transport and land use planning;
- Better use of railways as the back-bone of our passenger transport system;
- Better transport services and facilities;
- Better use of advanced technologies and transport management; and
- Better environmental protection.

### 1.3 Findings of PDS-1

1.3.1 PDS-1 assessed the parking situations for different types of vehicles and found that there was an acute shortage of goods vehicle parking spaces at night amounting to 83,800 spaces in 1994 and the shortfall situation was expected to deteriorate by 2001 and 2006. There was a shortage of about 26,000 parking spaces for private cars at night in 1994 if only domestic (residential) spaces were considered. When all the non-domestic and on-street spaces were included, the shortfall would turn into a surplus of 141,100 spaces.

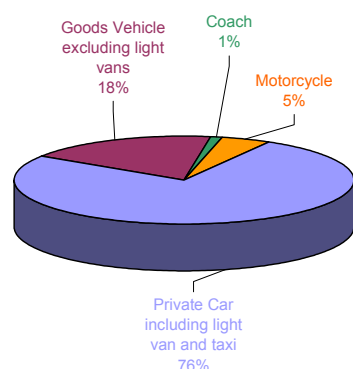
1.3.2 It is important to note that in PDS-1 for demand/supply analysis of parking spaces, light vans were included in the goods vehicle category as they were registered as goods vehicles. In PDS-2, however, it is recognised that a light van can physically park in a private car space and this has in fact been observed in

practice. The fleet size of private cars and goods vehicle has been adjusted to reflect a more realistic situation by excluding light vans from the goods vehicle category and including them in the private car category.

1.3.3 The parking situations for various types of vehicle in the 1994 base year of PDS-1 are summarised in Table 1.1. The Table shows the total number of night-time parking spaces against the licensed fleet size. The day-time parking situations were also analysed but night-time represents the more critical parking situations.

*Table 1.1 : Parking Situation in 1994*

| Vehicle Type                           | 1994 (PDS-1 Base Year) |                          |  |
|--|------------------------|--------------------------|--|
|  | Licensed Fleet Size    | Night-time Parking Space | Parking Space Surplus (+)/ Shortfall (-) |
| Private Car                            | 265,400                | 406,500                  | +141,100                                 |
| Private Car including light van & taxi | 313,500                | 406,500                  | +93,000                                  |
| Goods Vehicle                          | 123,700                | 39,900                   | -83,800                                  |
| Goods Vehicle excluding light van      | 75,600                 | 39,900                   | -35,700                                  |
| Coach                                  | 4,200                  | 2,100                    | -2,100                                   |
| Motorcycle                             | 19,500                 | 10,500                   | -9,000                                   |



*Figure 1.1 : Adjusted Licensed Fleet Size in 1994 incorporating Light Vans and Taxis in Private Cars*

### Private Cars

1.3.4 It can be seen that in 1994 there was a surplus of 141,100 parking spaces for private car, as categorised in PDS-1. However, with the inclusion of light vans in the licensed fleet size, a more realistic situation would have been a lower surplus of 93,000 spaces. According to PDS-1, the surplus would amount to 131,000 spaces by

2001 and 163,000 spaces by 2006 with light vans excluded.

### Goods Vehicles



*Non-designated GV Parking*

1.3.5 PDS-1 found that in 1994, goods vehicles experienced a shortfall of 83,800 overnight parking spaces. If light vans were excluded from the goods vehicle category, the parking shortfall would however be much smaller at 35,700 spaces. With light vans included in goods vehicle category the shortfall was expected to grow to 141,100 spaces by 2001 and 160,000 spaces by 2006.

### Coaches

1.3.6 This category included coaches and buses but excluded franchised buses, and public and private light buses. In 1994, there was a deficit of 2,100 coach parking spaces. PDS-1 focused on private cars and goods vehicles and did not make forecasts for future coach supply/demand.

### Motorcycles

1.3.7 Table 1.1 shows a deficit of 9,000 parking spaces for motorcycles in 1994. This was not considered to be a major problem given the motorcycles' relatively small size and manoeuvrability, as they could be accommodated in small and odd spaces. Although PDS-1 focused on private cars and goods vehicles, it recognized that the motorcycle situation would deteriorate, if no new measures were introduced.

## 1.4 Improvement to Situation since PDS-1

1.4.1 PDS-1 recommended a number of remedial measures to address the shortfall in

parking spaces for various types of vehicle, particularly goods vehicles. Some of the implemented major remedial measures, including the revision of parking standards in HKPSG, use of short-term tenancy sites and use of off-street loading/unloading spaces, have considerably improved the parking situations. Table 1.2 summarises the increase in parking spaces contributed by these measures.

**Table 1.2 : Increase of Parking Spaces through Implementation of PDS-1 Remedial Measures**

| Remedial Measure  | Increase in No. of Spaces since PDS-1 |               |            |              |
|---|---------------------------------------|---------------|------------|--------------|
|   | PC                                    | GV            | Coach      | MC           |
| Revision to the HKPSG   | 119,100 <sup>1</sup>                  | 16,500        | 200        | 5,600        |
| Park and Ride   | 1,000                                 | -             | -          | -            |
| Multi-storey Car Park   | 900                                   | 800           | -          | -            |
| Use of short-term tenancy (STT) sites for parking   | 4,000                                 | 700           | 600        | -            |
| Use of off-street goods vehicle loading / unloading spaces for night-time goods vehicle parking | -                                     | 3,100         | -          | -            |
| Night-time on-street parking for goods vehicles   | -                                     | 800           | -          | -            |
| <b>Total</b>  | <b>125,000</b>                        | <b>21,900</b> | <b>800</b> | <b>5,600</b> |

PC denotes private car

GV denotes goods vehicle

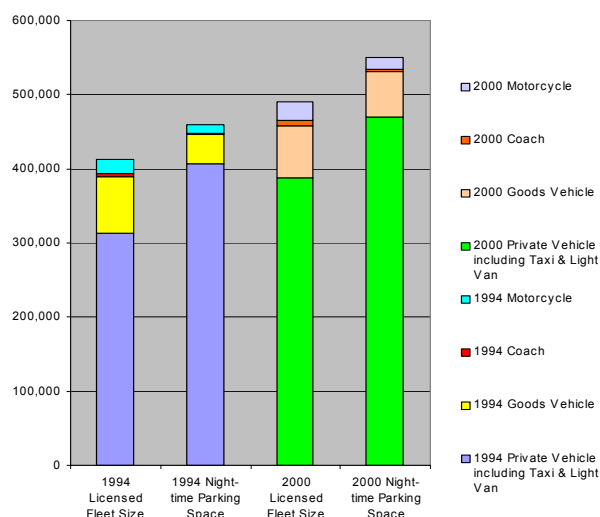
MC denotes motorcycle

<sup>1</sup> Includes all domestic and non-domestic spaces

1.4.2 Mainly through the implementation of remedial measures as recommended in PDS-1, the parking demand and supply situations generally improved from 1994 to 2000. Figure 1.2 illustrates the improvement since PDS-1. Table 1.3 shows the parking situation in year 2000.



**Short Term Tenancy (STT) Carpark**



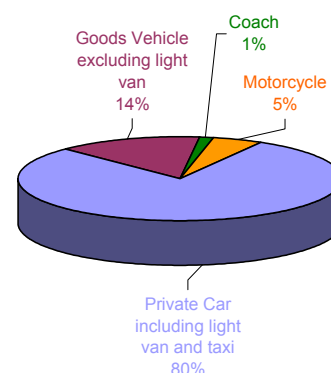
**Figure 1.2 : Comparison of Licensed Fleet Size and Parking Space in 1994 and 2000**

**Table 1.3 : Parking Situation in 2000**

| Vehicle Type                           | 2000 (PDS-2 Base Year) |                          |  |
|--|------------------------|--------------------------|--|
|  | Licensed Fleet Size    | Night-time Parking Space | Parking Space Surplus (+)/ Shortfall (-) |
| Private Car including light van & taxi | 387,700                | 469,700 <sup>1</sup>     | +82,000                                  |
| Goods Vehicle excluding light van      | 70,800                 | 61,800                   | -9,000                                   |
| Coach                                  | 6,200                  | 2,900                    | -3,300                                   |
| Motorcycle                             | 25,100                 | 16,100                   | -9,000                                   |

<sup>1</sup> The number of space includes domestic and a proportion of non-domestic. See Appendix A for details.

1.4.3 There was a surplus of 82,000 parking spaces for private cars in 2000, less than the 1994 situation of 93,000 spaces. For goods vehicles, there was a sharp reduction in shortfall from 35,700 spaces in 1994 to 9,000 spaces in 2000. The increase in coach fleet size outpaced the increase in parking supply from 1994 to 2000. As a result there was an increase in shortfall for coach parking spaces in 2000 as compared to 1994. Motorcycle parking shortfall in 2000 remained unchanged from 1994.



**Figure 1.3 : Licensed Fleet Size in 2000**

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